

R E P O R T R E S U M E S

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AN INVESTIGATION OF INSTITUTIONAL RESEARCH IN THE JUNIOR  
COLLEGES OF THE UNITED STATES. ABRIDGED FORM.

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DESCRIPTORS- \*JUNIOR COLLEGES, \*INSTITUTIONAL RESEARCH,  
\*PROGRAM EVALUATION, \*PROGRAM IMPROVEMENT, DOCTORAL THESES,

TO DETERMINE THE NATURE AND EXTENT OF JUNIOR COLLEGE  
INSTITUTIONAL RESEARCH, 336 RESPONSES TO A QUESTIONNAIRE WERE  
ANALYZED, AND SIX INSTITUTIONS WITH RESEARCH PROGRAMS WERE  
STUDIED IN DEPTH. IN GENERAL, THE COLLEGES WERE CHARACTERIZED  
BY LACK OF FORMAL INSTITUTIONAL RESEARCH PROGRAMS, SPECIFIC  
POLICY OR BUDGET PROVISIONS FOR RESEARCH, ADEQUATE RESEARCH  
STAFF, AND PROVISION FOR EVALUATION OF RESEARCH. THE MOST  
COMMON USES OF RESEARCH WERE DECISION MAKING, CURRICULUM  
PLANNING, ESTABLISHMENT OF GOALS, PREPARATION FOR  
ACCREDITATION, AND PLANNING FOR FUTURE NEEDS. FINDINGS  
INDICATED THAT THERE WAS NEED IN EACH JUNIOR COLLEGE FOR (1)  
A BASIC PHILOSOPHY OF INSTITUTIONAL RESEARCH, (2) ADEQUATE  
FINANCIAL SUPPORT, (3) DESIGNATED RESPONSIBILITY FOR  
RESEARCH, (4) INVOLVEMENT OF STAFF MEMBERS, (5) ASSISTANCE  
AND TRAINING FOR RESEARCH WORKERS, AND (6) EFFECTIVE USE AND  
DISSEMINATION OF RESEARCH FINDINGS. THIS REPORT IS A BRIEF  
ACCOUNT OF THE RESEARCH FOR THE AUTHOR'S DOCTORAL  
DISSERTATION (SEE JC 670 765) WHICH IS AVAILABLE AS DOCUMENT  
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CLEARINGHOUSE FOR  
JUNIOR COLLEGE  
INFORMATION

AN INVESTIGATION OF INSTITUTIONAL RESEARCH IN THE  
JUNIOR COLLEGES OF THE UNITED STATES

A Report of a National Study

by

Herbert L. Swanson

1965

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## CHAPTER I

### INTRODUCTION

Someone has said that ignorance is more expensive than education. Industry has realized for some time that research is essential to sound planning and development. Education has, however, lagged in research. Coombs suggests,

It is no exaggeration to say that there has not been a profoundly radical innovation in the technology of education since the introduction of the book in the 17th Century, until the recent appearance of television. Radio and educational films threatened some years ago to make a significant technological breakthrough in education, but they were safely contained by the weight of tradition and folklore to the status of fringe benefits. The self-contained classroom with its one teacher and as few pupils as possible, and with the textbook as bible, has remained inviolate for generations.<sup>1</sup>

With the current sharp expansion of higher education, the need for operational research in our colleges and universities becomes increasingly clear. As Brumbaugh points out,

Colleges and universities must prepare for a tremendous increase in college enrollments in the decades just ahead. They must see that their programs and faculties keep pace with the rapidly expanding fields of knowledge....The key to effective administration is the ability of the president and those who work with him to ask the right questions and then find the right answers. But the right answers to the right questions, whether they are specific in relation to a given institution or whether they are more comprehensive, must take into account all the relevant, factual data--the kind of data that only institutional research can provide.<sup>2</sup>

The junior college is currently faced with problems and opportunities of awesome scope. It becomes particularly important that this dynamic unit of American higher education utilizes research as a basis for improvement and development.

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<sup>1</sup>Philip H. Coombs, The Technical Frontiers of Education, Twenty-seventh Annual Sir John Adams Lecture (Los Angeles: University of California, Los Angeles, March 15, 1960) p.8.

<sup>2</sup>A. J. Brumbaugh, Research Designed to Improve Institutions of Higher Learning (Washington, D.C.: American Council on Education, n.d.), pp.1-2.

It is this area, institutional research in the junior college, with which this study is concerned.

### Purposes of the Study:

More specifically the purposes of this study are to:

1. Identify and report practices in institutional research in the junior colleges of the United States.
2. Determine the extent to which the practices identified in 1, above, are related to such selected characteristics of junior colleges as size, type of control, age, and location.
3. Identify plans and recommendations for improving junior college programs of institutional research.

### Background and Importance of the Study:

Education, like industry, must ask many important questions of itself--how to predict student success, how to reduce junior college attrition, how appropriately to place low ability students, or how to get the most out of the educational dollar. The need is indeed great for a well-organized, far-sighted, deep-searching program of institutional research to help vitalize the American educational system. Coombs observes "that our formal educational system must be ranked as a relatively undynamic and unprogressive industry", and wonders "whether these traditional methods and arrangements will suffice to handle the enormous tasks which now confront our schools and colleges."<sup>3</sup> His discussion advocates an educational revolution as a solution, and indicates that much more effort must be put into research. He states that only about one-tenth of one per cent of the total annual expenditure on education in the United States is spent on research as contrasted to five per cent by industry and ten per cent by the military.

As a rapidly expanding segment of American education, the junior college has only recently begun to realize that through institutional research it can maintain its reputation as a dynamic institution. As Stickler says:

Through institutional research an increasing number of institutions of higher learning are finding ways and means of identifying and analyzing some of their problems--of knowing themselves better--in order that they may improve their programs and operations and plan intelligently for the future.<sup>4</sup>

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<sup>3</sup>Coombs, op. cit., p.4.

<sup>4</sup>W. Hugh Stickler, "The Expanding Role of Institutional Research in American Junior Colleges," Junior College Journal, XXXI (May 1961), 543.



Led by Stephens College under the late W. W. Charters, some junior colleges have increasingly given evidence of an awareness of the need for institutional research. At the same time, other agencies--such as the United States Office of Education, the American Council on Education, the Western Interstate Commission for Higher Education, the American Association for Junior Colleges, state offices of education, and foundations--are making valuable assistance available.

In California the role of the junior college in research has been clearly delineated by the Master Plan for Higher Education:

The junior colleges will: Consider themselves instructional institutions with work confined to the lower divisions; hence, research should be directed toward improving the quality of junior college instruction. (In addition, junior college faculty should be encouraged to pursue individual research during summers and whenever possible during the academic year.)<sup>5</sup>

This mandate indicates that the primary research responsibility of the junior college is the improvement of its own operations, the most important element of which is instruction. This is no easy task.

Since institutional research is a key to junior college improvement, Williams indicates, in discussing its value:

It can perform a two-fold service. It can serve itself by thus establishing criteria for measuring its value, and it can serve each institution by thus providing a guide to improvement.... Thorough and precise definition of the improvement process for each institution is a very basic contribution which institutional research can make.<sup>6</sup>

Although institutional research is vital in the improvement of instruction, it is important to note that there are many other areas in which such research plays an important part in junior college operations. Brumbaugh discusses at length four major areas "in which the use of research findings is indispensable. These are: policy formulation, planning, administration, and evaluation."<sup>7</sup>

Stickler lists several more specific categories:

(a) administrative problems and procedures, (b) budget and factors related to budgets, (c) class size surveys, (d) operational costs and factors related to costs, (e) curriculum, (f) degrees awarded,

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<sup>5</sup>State of California, Master Plan for Higher Education (Sacramento: California State Department of Education, 1960), p. 210.

<sup>6</sup>J. D. Williams, "The Value of Institutional Research," unpublished remarks at the Institute on Institutional Research (Tallahassee, Fla.: Florida State University, July 11, 1960), p. 2.

<sup>7</sup>A. J. Brumbaugh, op. cit. p.3.

(g) enrollment analyses and projections, (h) grading practices, (i) instructional staff, (j) faculty salaries, (k) space inventories and space utilization, (l) student ability studies, (m) student characteristics and backgrounds, (n) student costs, (o) student progress, (p) faculty loads, (q) time utilization, (r) studies of transfer students, and (s) "Miscellaneous studies."<sup>8</sup>

Regional studies by Johnson<sup>9</sup>, and Sprague<sup>10</sup>, and two pilot studies by the author, show that most of the studies reported by junior colleges are in the student and curriculum areas. There are few studies reported, however, in such other areas as teaching methods, finance, relationships with outside agencies, and administration and organization of the institution.

Stickler stresses planning--and this would seem to include identifying varied areas which require study--as he makes recommendations for developing a program of institutional research:

- a. Institutional research must be planned.
- b. Responsibility for the direction, coordination, and review of institutional research should be centralized.
- c. The executive office of the institutional research agency should report to a major institutional officer, preferably the president.
- d. An institution-wide advisory committee should assist the institutional research agency in carrying out its responsibilities.
- e. Provision should be made for wide participation by faculty members and administrative officers in planning and conducting research projects.
- f. Institutional research must be adequately financed.<sup>11</sup>

It would seem that Stickler might well have added two more recommendations:

- g. Provision should be made for the dissemination and use of the research findings.
- h. Consideration should be given to the possibilities for inter-institutional cooperation in studying common problems.

The present study aims, through discovery and analysis of current practices, to contribute to the advancement of institutional research in the junior college.

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<sup>8</sup>Stickler, op. cit., p. 545.

<sup>9</sup>B. Lamar Johnson, "California Junior College Curriculum Development," California Journal of Secondary Education, XXXI (March 1956), 134-38.

<sup>10</sup>Hall T. Sprague, Institutional Research in the West (Boulder, Colo.: Western Interstate Commission for Higher Education, 1959).

<sup>11</sup>Stickler, op. cit., p. 547.

### Review of the Literature:

The literature in this field, until the past two or three years, has been very scarce. Recently, with the awakening awareness of the vital role institutional research plays in the junior college, some material has been published that is significant. Most of these publications are in the form of study reports or conference papers. Very few of the writers of hard-bound books have alluded to institutional research, per se.

A comprehensive bibliography of the materials in this field was developed and the various items were reviewed. Those that were most significant in the opinion of the author are included in the selected bibliography that is attached to this report. Although the literature in this field--institutional research in the junior college--is increasing rapidly in both scope and depth, the findings of this first nationwide study should make a valuable contribution to the knowledge of institutional research workers, and other staff members, in the junior college.

### Method of the Study:

The method of this investigation included the following steps:

1. Pilot studies were made of (a) the institutional research process and accomplishments at six selected southern California junior colleges, and (b) the institutional research studies that had been done in the Los Angeles Junior College District.
2. The literature was reviewed regarding institutional research especially as it related to the junior college.
3. An inquiry form was developed and tested.
4. An introductory letter of invitation to participate in the study was mailed to the chief administrators of all public and private junior colleges in the United States, as listed in the 1962 Directory of the American Association of Junior Colleges.
5. The inquiry form was mailed to the 341 colleges that accepted the invitation, and 274 responded.
6. Follow-ups to those that had not responded, in June and September, elicited 62 more responses.
7. Outstanding junior college leaders were asked to recommend representative institutions that might be visited for depth study. Six institutions were selected, and the author received permission and visited El Camino College, Everett Junior College, Los Angeles City College, Orange Coast College, Oregon Technical Institute, and Stephens College.
8. By computer, the Chi Square Test of significance, or goodness of fit, was made for each objective response and each variable.



### Definiton of Terms:

Junior College. All two-year institutions of higher education listed in the Directory of the American Association of Junior Colleges.

Institutional Research. The definition used in the inquiry which provided the data for this study is "Institutional research as used in this inquiry refers to all studies made on your campus which are designed to improve your college or any part of its program or operations."

### Analysis of Participants: (See Table 1)

Of the 669 junior colleges contacted, 404 (60%) were publically controlled, and 265 (40%) were privately controlled. Slightly over 60 per cent (243) of the public colleges responded, while 35 per cent (93) of the private colleges participated.

There were more responses, both in the public and the private colleges, as they became larger--the larger the institution, the higher the percentage of response. Thirty-seven per cent of those colleges with enrollments under 200 returned the inquiry, while 78 per cent of those with more than 2,000 responded.

All of the junior colleges in Arizona, Delaware, Hawaii, New Hampshire, New Mexico, and North Dakota responded; however, this total represented only 13 institutions. On the other hand, 62 colleges answered from California, 23 from New York, 19 from Florida, 18 from Pennsylvania and Texas, 17 from Wisconsin, and 16 from Illinois. By accrediting regions, the largest total, 113 responses (51%) were received from the North Central Association. Sixty-three colleges responded (84%) from the Western Association, and there were 70 responses (38%) from the Southern Association. Only one-third of the New England Association colleges returned the inquiry; however, nearly two-thirds of those reporting from this region were private.

A slightly larger percentage (58%) of the colleges that were established after 1950 responded than those founded before 1924 (47%).

Table 1

NUMBER OF JUNIOR COLLEGES RESPONDING IN EACH CATEGORY  
OF EACH COLLEGE CHARACTERISTIC

Region			Size			Age			Type		
Code	Number	Percent	Code	Number	Percent	Code	Number	Percent	Code	Number	Percent
1.1	63	18.8	2.1	63	18.8	3.1	83	24.7	4.1	243	72.3
1.2	24	7.1	2.2	69	20.5	3.2	84	25.0	4.2	93	27.7
1.3	113	33.6	2.3	70	20.8	3.3	70	20.8			
1.4	70	20.8	2.4	65	19.3	3.4	99	29.5			
1.5	53	15.8	2.5	69	20.5						
1.6	13	3.9									
Total	336	100.0		336	100.0		336	100.0		336	100.0

## Codes:

- 1.1 - Western Association of Schools and Colleges
- 1.2 - Northwest Association of Secondary and Higher Schools
- 1.3 - North Central Association of Colleges and Secondary Schools
- 1.4 - Southern Association of Colleges and Secondary Schools
- 1.5 - Middle States Association of Colleges and Secondary Schools
- 1.6 - New England Association of Colleges and Secondary Schools

- 2.1 - 1-199
- 2.2 - 200-399
- 2.3 - 400-799
- 2.4 - 800-1999
- 2.5 - Over 2000

- 3.1 - Before 1924
- 3.2 - 1925-1934
- 3.3 - 1935-1949
- 3.4 - After 1950

- 4.1 - Public
- 4.2 - Private

## CHAPTER II

### SUMMARY OF FINDINGS

This study was limited to the following areas of an institutional research program: (1) organization for and participation in institutional research; (2) types of assistance provided by the institution to its staff members studying problems relating to their work; (3) records and files maintained of institutional research; (4) the uses to which the findings of institutional research are put; (5) practices followed in encouraging the use of research findings; (6) cooperation in inter-institutional research; (7) problems which handicap the development of an effective program of institutional research; and (8) procedures followed in evaluating the value and effectiveness of the research program. The respondents were also requested to indicate what they were planning in regard to institutional research at their college, and what recommendations they would make for other junior colleges throughout the United States.

On the basis of an analysis of the data from this survey the following major findings emerge:

1. Comparatively few, less than 20 per cent of the colleges reporting, had a formally organized program of institutional research. Only five of the 336 participating institutions had full-time coordinators. Fifty-six had part-time leadership for research. Those who had part-time responsibility had a wide variety of other assignments--22 other position titles were reported for these staff members. However, 45 of the coordinators--both full-time and part-time--were responsible to the president of the college. (See Table 2)
2. In more than one-third of the colleges committees of some type were reported to be involved in the research program. Although some committees were organized for the specific purpose of dealing with institutional research, 39 other types of staff committees were involved in research in one way or another. (See Table 2)
3. Four-fifths of the colleges had no formal program and did little institutional research. In these institutions such responsibilities as were assigned were shared between or among the president, dean of student personnel, dean of instruction, registrar, or the instructors. (See Table 2)
4. Over 100 junior colleges brought in outside consultants, often to make self-studies, to help on plant development, to suggest studies, and to help organize them. College and university professors most often serve as consultants. (See Table 2)
5. Only seven colleges had written board policies concerning institutional research, and even fewer (5) had any administrative regulations.

6. Fewer than one in ten of the colleges reporting provided a separate item in their budget for research. Although most financed their programs through departmental budgets, a few indicated that some support came through grants from off-campus sources.

7. A wide variety of personnel were involved in the institutional research program. The chief administrator usually initiated studies, evaluated and interpreted results and disseminated findings. He also played a major role in planning investigations. Subadministrators, department heads, and instructors most often conducted studies. Board members participated mainly in the initiation and evaluation of studies. (See Table 3)

8. Limited assistance was provided to staff members who were interested in working on their own problems. Half of the colleges gave some secretarial-clerical aid, and about the same number, supplies and equipment. Other types of help were given by few colleges. (See Table 4)

9. Two out of three colleges maintained some type of files for institutional research. Some of these were in college-wide files, others in departmental.

10. The use of research findings in curriculum planning was reported by 72% of the responding colleges. Two out of three used findings in making decisions, in improving instruction, in establishing policies and procedures, in establishing goals, in preparing for accreditation, and in planning for future needs. (See Table 5)

11. Of the responding junior colleges, three-fourths stated that involving staff members in planning and conducting studies was very effective in encouraging them to use the findings. Two out of three indicated that giving adequate distribution to the findings encouraged their use, and as many colleges reported that early dissemination of the findings, and reporting research in progress, were important practices. (See Table 6)

12. One-third of the colleges cooperated with a wide variety of other institutions and/or agencies in inter-institutional research projects--usually consisting of filling out questionnaires, submitting reports, or joint studies of interest common to more than a single institution. Comparatively few joint studies on problems of common interest were reported. (See Table 7)

13. More than three-fifths of the colleges reported that lack of time was the major problem which interfered with the development of an effective program of institutional research. Inadequate finances was the other major problem reported. (See Table 8)

14. Less than one-third of the colleges reported having plans for evaluating their programs of institutional research and some 30 per cent of those stated that they arrived at judgments through discussions between and among faculty and administrators.



15. Relationships which are statistically significant are summarized in Table 9. M or F are used to indicate more or fewer colleges than might have been expected and to indicate statistically significant departures (at the .05 level) from theoretical expected frequencies calculated on the basis of chance only.

Public junior colleges, were much more active in institutional research than private colleges. Private institutions reported less activity, especially in assistance provided, uses of research findings and practices followed to encourage the use of those findings, and cooperation in inter-institutional research. More public colleges than might have been expected were satisfied with their organization for institutional research, provided data processing and other equipment and supplies, encouraged the use of research findings, used such findings in the preparation of budgets and in improving community services, and cooperated in inter-institutional research.

Junior colleges in the Western Association were more active in institutional research than were colleges in other regional associations.

Larger junior colleges--those with enrollments over 800--tended to be more active than the smaller colleges, especially in assistance provided, in the uses of research findings, and in the practices employed to encourage the use of those findings. In contrast, more large colleges reported that a lack of finances was a major problem.

No relationships were found between the age of a college and its activity in institutional research.

16. Considerable activity is being planned by junior college administrators (as reported by nearly 250) in developing research organizations as well as doing studies in many areas--especially follow-up studies of students, curriculum revision, and college self-studies. (See Table 10)

17. If administrators could do as they wished in institutional research they would have much more full-time coordination (indicated by 63 respondents) with adequate assistance, and involve faculty members more by giving released time so they could participate. (See Table 11)

18. More than 125 college administrators made recommendations about needing help through better communications and coordination in their relationships regarding inter-institutional research--submitting reports, answering questionnaires, making joint studies, and the like--with state and national agencies. (See Table 12)

Table 2

**TYPE OF ADMINISTRATIVE ORGANIZATION FOR INSTITUTIONAL RESEARCH  
REPORTED BY PUBLIC AND PRIVATE JUNIOR COLLEGES**

Type of Organization	Public Colleges (N=243)		Private Colleges (N=93)		All Colleges (N=336)	
	N	Percent	N	Percent	N	Percent
Full-time Co-ordinator	3	1	2	2	5	2
Part-time Co-ordinator	44	18	12	13	56	17
Research Committee or Council	35	14	20	22	55	16
Divided Responsibility	99	41	31	33	130	39
No Formal Organization	97	40	47	51	144	43
Outside Consultants	69	28	33	35	102	30

Table 3

**INSTITUTIONAL RESEARCH RESPONSIBILITIES OF PERSONS IN VARIOUS POSITIONS  
AS REPORTED BY 194 PUBLIC AND 62 PRIVATE JUNIOR COLLEGES**

Position	Responsibilities							
	Stimulating or Initiating Studies		Planning Design of Studies		Making Studies		Evaluating and Interpreting Studies	
	Pub. Pri. Tot.	Pub. Pri. Tot.	Pub. Pri. Tot.	Pub. Pri. Tot.	Pub. Pri. Tot.	Pub. Pri. Tot.	Pub. Pri. Tot.	Pub. Pri. Tot.
Board members	60 21 81	7 4 11	8 6 14	44 16 60	27 7 34			
Chief administrator	169 45 214	112 34 146	55 23 78	118 47 165	128 38 166			
Other administrators	88 28 116	88 25 113	83 30 113	89 30 119	75 21 96			
Department heads	93 20 113	89 28 117	105 32 137	92 27 119	65 19 84			
Instructors	87 16 103	80 21 101	117 41 158	83 25 108	52 11 63			
Students	36 9 45	14 7 21	32 13 45	14 7 21	22 7 29			
Secretaries and clerks	11 0 11	6 0 6	36 13 49	3 0 3	20 9 29			
Community leaders	48 2 50	18 0 18	18 4 22	26 2 28	30 3 33			
Other	11 4 15	13 4 17	14 5 19	17 3 20	12 3 15			

Table 4

**TYPES OF ASSISTANCE PROVIDED JUNIOR COLLEGE  
STAFF MEMBERS ENGAGED IN INSTITUTIONAL RESEARCH**

Type of Assistance	Public Colleges (N=243)		Private Colleges (N=93)		All Colleges (N=336)	
	N	Percent	N	Percent	N	Percent
Technical	103	42	26	29	130	39
Secretarial, Clerical	164	67	47	51	211	63
Data Processing Equipment	68	28	8	9	76	23
Outside Consultants	53	22	21	23	74	20
Supplies, Equipment	151	62	37	40	188	68
Compensatory Time	35	14	15	16	50	15
Leave	17	7	7	8	24	7
Reduced Load	48	20	18	19	66	20
Extra Pay	12	5	6	6	18	5
Other	6	3	3	3	9	3



Table 5

**USES OF INSTITUTIONAL RESEARCH FINDINGS REPORTED BY  
PUBLIC AND PRIVATE JUNIOR COLLEGES**

Use of Findings	Public Colleges (N=243)		Private Colleges (N=93)		All Colleges (N=336)	
	N	Percent	N	Percent	N	Percent
Establishing goals	166	68	48	52	214	64
Establishing policies and procedures	172	71	54	58	226	67
Making administrative decisions	175	72	52	56	227	68
Preparing for accreditation	162	67	46	49	208	62
Preparing budget	125	51	33	35	158	57
Curriculum planning	188	77	55	59	243	72
Improving instruction	172	71	54	58	226	67
Improving community relations	128	53	25	27	153	46
Plant and auxiliary services	99	41	29	31	128	38
Planning for future needs	155	64	48	52	203	60
Other	13	5	1	1	14	4

Table 6

**PRACTICES FOLLOWED TO ENCOURAGE USE OF RESEARCH FINDINGS  
AS REPORTED BY PUBLIC AND PRIVATE JUNIOR COLLEGES**

Practices	Public Colleges (N=243)		Private Colleges (N=93)		All Colleges (N=336)	
	N	Percent	N	Percent	N	Percent
Early dissemination of findings	134	55	35	38	169	50
Adequate distribution of findings	163	67	48	52	211	63
Involve staff member in research	163	67	54	58	217	65
Provide public recognition to workers	98	40	16	17	114	34
Convene study groups	101	42	28	30	129	38
Use in-service training	57	23	15	16	72	21
Report research in progress	143	59	32	34	175	52
Other	4	2	0	0	4	1

Table 7

INSTITUTIONS OR AGENCIES WITH WHICH JUNIOR COLLEGES  
CO-OPERATED IN INTERINSTITUTIONAL RESEARCH,  
BY FREQUENCY OF MENTION\*

<u>Institution or Agency</u>	<u>Frequency</u>
All types by completing questionnaires,	
giving interviews . . . . .	29
Universities. . . . .	24
Sister institutions . . . . .	18
Junior College Association (or J.C.	
Committees on state level). . . . .	15
State Department of Education . . . . .	12
Colleges. . . . .	10
Junior College District (e.g., Los	
Angeles, Chicago) . . . . .	9
Church Board. . . . .	6
High Schools. . . . .	5
Junior College Conference . . . . .	4
State Board of Control. . . . .	4
State . . . . .	4
State Association of Colleges . . . . .	4
Graduate Students . . . . .	4
U. S. Office of Education . . . . .	3
Foundations . . . . .	3
Specific departments in sister	
institutions. . . . .	3
Various national associations (e.g., AAJC,	
NEA). . . . .	3
ACT research studies. . . . .	2
Specific individual listed . . . . .	2
State Associations. . . . .	2
State Department of Employment. . . . .	1
Division of Vocational Education. . . . .	1
County Superintendent's Office . . . . .	1
Community agencies. . . . .	1
State Legislature . . . . .	1
Meetings and Workshops . . . . .	1
U. S. Department of Defense . . . . .	1

\*Some colleges mentioned more than one institution  
or agency

Table 8

PROBLEMS WHICH HINDER DEVELOPMENT OF EFFECTIVE  
PROGRAM OF JUNIOR COLLEGE INSTITUTIONAL RESEARCH

Problems	Public Colleges (N=243)		Private Colleges (N=93)		All Colleges (N=336)	
	N	Percent	N	Percent	N	Percent
Inadequate finances	137	56	29	31	166	49
Lack of time	160	66	47	51	207	62
Staff reluctance to use findings	15	6	7	8	22	7
Lack of competent guidance	59	24	16	17	75	22
Confidential nature is limiting	21	9	5	5	26	8
Lack of proper records	44	18	10	11	54	16
Attitude of board	10	4	1	1	11	3
Other	17	7	6	6	23	7



Table 9

**SUMMARY OF INQUIRY FORM ITEMS SIGNIFICANTLY RELATED TO SELECTED CHARACTERISTICS  
OF JUNIOR COLLEGES, AS DETERMINED BY CHI SQUARE TEST\***

Inquiry Item	Type <sup>a</sup>	Location <sup>b</sup>							Size <sup>c</sup>	Aged		
		Pb	Pr	WA	WNA	NCA	SA	NSA		NEA	Before '25-1924	'35-'49
Organization												
Part-time Co-ordinator									M			
Divided Responsibility				M					M			
No Formal Organization				F						M		
Satisfactory Organization	M		M	F								
Separate Budget Item	F	M	F						F			
Other Staff Committees	F		F				F		M	F		
Assistance												
Technical		F	M		F				M	F		
Secretarial/Clerical		F	M			F			M	F		
Data Processing Equipment				M	F	F		F	M	F		F
Outside Consultants				F						F		
Supplies and Equipment							F		M			
Compensatory Time	M	F	M	F								
Reduced Load												
Extra Pay				F					M	F	F	F

\* Read symbols as follows: M = more colleges than might have been expected; F = fewer colleges than might have been expected.

<sup>a</sup>Pb = Public; Pr = Private

<sup>d</sup>Indicated founding years.

<sup>b</sup>Location by accrediting association areas

<sup>c</sup>Lg = Large (above 800 enrollment); Sm = Small (below 800 enrollment).

Table 9 (continued)

Inquiry Item	Type		Location					Size		Age				
	Pb	Pr	WA	NWA	NCA	SA	NSA	NEA	LG	Sm	Before 1924	'25-'34	'35-'49	After 1950
Records														
Central Records		F			M		F		M					F
Department Records									M	F				
Master List			M							M				
Use of Findings														
Establish Goals	F					F			M	F				
Establish Policies	F		M						M	F				
Make Administrative Decisions	F		M		F				M	F				
Prepare for Accreditation	F		M		F				M	F				
Prepare Budget		M							M	F				
Develop Curriculum	F		M			F			M	F				
Improve Instruction	F		M						M	F				
Improve Community Services		M				F				F				
Improve Plant Operations	F		M				F		M	F	M			F
Planning for Future Needs		F	M		F				M	F				
Practices to Encourage Use														
Early Dissemination	M	F		M					M	F				
Adequate Distribution of Findings		F					F		M	F				
Involve Staff									M	F				
Provide Public Recognition		M		F				F	M	F				
Convene Study Groups			M	F		F			M	F				
In-service Training in Research		F							M	F				
Report Research in Progress		M				F		F						
Particularly Useful Practices			M						M	F				

Table 9 (concluded)

Inquiry Item	Type		Location					Size		Age			
	Pb	Pr	WA	MNA	NCA	SA	NSA	NEA	Lg	Sm	Before 1924	'34	'35- After 1950
Co-operate in Interinstitutional Research	M	F	M		F		F		M	F			
Problems Inadequate Finances Lack of Time Staff Reluctance to Use Findings Lack of Competent Guidance Confidential Findings	M	F	M		M	F	F		M	F			
	F	F	F		F	F	F		M	F			
Totals											31	3	0
M = 10											1	0	0
F = 3											23	6	2
T = 37											61	67	4

Table 10

**PLANS FOR AREAS OF INSTITUTIONAL RESEARCH  
BY FREQUENCY OF MENTION**

<u>Area of Study</u>	<u>Frequency</u>	
<b>Students</b>		
Follow-up of transfer graduates. . . . .	16	
Student success, grades. . . . .	16	
Analysis of student population . . . . .	15	
Student follow-up. . . . .	14	
Dropouts . . . . .	10	
Follow-up of terminal students . . . . .	6	
Student activities . . . . .	4	
Student load . . . . .	1	
Student employment . . . . .	1	
Student study habits . . . . .	1	84
<b>Administration</b>		
Self-evaluation. . . . .	20	
Preparation for accreditation. . . . .	18	
District organization. . . . .	8	
Student personnel. . . . .	5	
Policy development . . . . .	3	
Staffing . . . . .	3	
Year-round operation . . . . .	3	
Committee organization . . . . .	2	
Personnel services . . . . .	2	
Administration . . . . .	2	
Articulation with business . . . . .	1	
Articulation with high school. . . . .	1	
Articulation with transfer schools . . . . .	1	
Calendar development . . . . .	1	
Catalogue revision . . . . .	1	
Questionnaires . . . . .	1	
Regulations and instructions . . . . .	1	
Reporting procedures . . . . .	1	
Summer session . . . . .	1	75
<b>Curriculum</b>		
Curriculum revision. . . . .	32	
Curriculum needs . . . . .	11	
Remedial programs . . . . .	5	
Honors programs . . . . .	4	
Program evaluation . . . . .	2	
Library. . . . .	1	55



Table 10 (continued)

<u>Area of Study</u>	<u>Frequency</u>
<b>Admissions and enrollment</b>	
Counseling procedures . . . . .	9
Admissions. . . . .	8
Enrollment projection . . . . .	7
Placement test validity . . . . .	6
Prediction of success . . . . .	5
Probation . . . . .	2
Course enrollment . . . . .	1
Course screening. . . . .	1
Course selection procedures . . . . .	1
	40
<b>Plant</b>	
Plant . . . . .	12
Future development. . . . .	9
Space utilization . . . . .	4
	25
<b>Instruction</b>	
Instruction effectiveness . . . . .	12
Class size. . . . .	3
Programmed instruction. . . . .	2
Examinations. . . . .	1
	18
<b>Finance</b>	
Finance and budget. . . . .	6
Unit costs. . . . .	3
Classified salaries . . . . .	1
	10
<b>Faculty</b>	
In-service training . . . . .	5
Faculty characteristics . . . . .	2
Academic rank . . . . .	1
Teacher load. . . . .	1
	9
<b>Goals and objectives</b>	
College image . . . . .	4
Philosophy. . . . .	3
Standards . . . . .	1
	8

Table 10 (concluded)

<u>Area of Study</u>	<u>Frequency</u>
Public Relations	
Community . . . . .	3
Publications. . . . .	1
Special events planning . . . . .	1
Alumni. . . . .	1
	6
	<hr/>
Total . . . . .	330

Table 11

"DREAM" PLANS FOR INSTITUTIONAL RESEARCH PROCESS  
BY FREQUENCY OF MENTION

<u>Activity</u>	<u>Frequency</u>
Full-time co-ordination . . . . .	63
Provide released time for faculty . . . . .	20
Full-time secretarial-clerical help . . . . .	15
Part-time co-ordination . . . . .	13
Data processing for retrievable data. . . . .	11
Develop a plan of operation . . . . .	9
Appoint research advisory committee . . . . .	8
Add staff assistants. . . . .	7
Expand inter-institutional research . . . . .	7
Hire consultant to help set up program. . . . .	7
Encourage departments and staff to seek study problems . . . . .	6
Provide adequate space and equipment. . . . .	5
Provide research budget . . . . .	4
Discover ways of using and evaluating results. . . . .	4
Utilize faculty committees. . . . .	4
Develop a program to inform faculty and staff . . . . .	4
Develop an in-service training program. . . . .	4
Let institutional research develop as needed . . . . .	3
Develop "Research Center" . . . . .	3
Provide extra pay . . . . .	3
Develop an institutional policy and philosophy regarding research activities . . . . .	2
Co-ordinate study projects under trained researcher . . . . .	2
Centralization of completed research . . . . .	2
Obtain time on data processing equipment. . . . .	2
Disseminate results . . . . .	2
"Be realistic". . . . .	1
Organize a separate department. . . . .	1
Appoint an assistant dean to co-ordinate. . . . .	1

Table 12

RECOMMENDATIONS OF JUNIOR COLLEGE ADMINISTRATORS  
REGARDING INSTITUTIONAL RESEARCH  
BY FREQUENCY OF MENTION

<u>Recommendation</u>	<u>Frequency</u>
Better communications on findings so all can benefit--through <u>Junior College Journal</u> , interchange of material, national newsletter, a junior college journal of educational research . . . . .	30
Co-ordination of questionnaires--central pooling of responses, clearing house . . . . .	19
Central collection agency/agencies for study material--clearing house, depository, cataloging, dissemination of findings. . . . .	19
The junior college must recognize the need for and develop a respect for institutional research--plan, provide financial support for, evaluate, and the like . . . . .	17
Set up central department of research, plus research committee, in each college--program geared to needs, attached to president's office . . . . .	16
Utilize the resources of state, regional, and national agencies (United States Office of Education, American Association of Junior Colleges, American Council on Education, state departments of education and pro- fessional organizations)--provide leadership and stimulation, consultive help, publications, help obtain financial support for co-operative studies, data processing equipment, co-ordination, and clearing house functions . . . . .	14
Institutional research should be limited to junior college services, curriculum development in meeting community needs--junior college is a teaching institution . . . . .	10
Do meaningful research--use findings, publish results, involve those concerned . . . . .	9

Table 12 (continued)

<u>Recommendation</u>	<u>Frequency</u>
Organize conferences, workshops, convention sections for orientation and training . . . . .	8
Prepare information, "How to Do It" manuals, guidelines. . . . .	7
Publish a continuing anthology of institutional studies at regular intervals, including sample forms. . . . .	7
Have more co-operative studies . . . . .	7
Simplify and standardize data forms required of reporting institutions, also terminology and measures. . . . .	6
Have in-service training for institutional research, give released time and pay. . . . .	6
Develop an image of institutional research through nationwide propaganda--newspapers, radio, television, and magazines. . . . .	5
Start in a small way and build--involve people . . . . .	4
Establish a state and/or national method of co-ordinating research. . . . .	3
Obtain federal funds, grants, and the like to study common problems . . . . .	3
Institutional research should be regular, thorough, and practical . . . . .	3
Define what "research" is for all types of junior colleges. . . . .	2
Have data processing equipment available at a reasonable cost . . . . .	2
Institutional research should not be done by only one person --he co-ordinates. . . . .	1
Get legislation permitting junior college research (California). . . . .	1



## CHAPTER III

### CONCLUSIONS AND RECOMMENDATIONS

#### Conclusions:

1. Although institutional research in higher education lags well behind that in industry and the military, and that of the junior college is well behind the university, this picture becomes increasingly brighter as more two-year institutions recognize the need to organize and support a program.
2. Increasing institutional research is evident in the junior colleges and even more projected according to the plans of administrators participating in this study.
3. Most junior colleges are not organized adequately to conduct institutional research.
4. Most junior colleges--particularly those under private control and those with enrollments under 800 students--carry on little institutional research.
5. Comparatively few staff members participate in the institutional research at their college.
6. Little has been done in most two-year institutions regarding the formulation of a policy for institutional research or the development of an atmosphere conducive to stimulation or research and creativity.
7. There is poor dissemination and relatively little use made of institutional research findings on either the local or inter-institutional level.
8. The size of the institution does not indicate the need for institutional research nor the ability to organize for it.
9. Very little institutional research is a part of long-term planning. Studies are typically initiated "on the spur of the moment" to provide a basis for immediate decision making.
10. Very few junior colleges with institutional research programs have developed any way of evaluating the effectiveness of their efforts, and most of those only in a subjective, nonscientific way.

#### Recommendations:

The findings and conclusions of this study indicate that although institutional research has, in the past, been given only tangential attention in junior colleges, interest and activity in the field is increasing.

Currently the junior college which is most active in institutional research--as defined by program characteristics investigated in the present study--is typically a public two-year college, of indeterminate age, with enrollment above 800, and located within the boundaries of the Western Association of Schools and Colleges. Plans for the future suggest, however, advances in institutional research by junior colleges of all types, of varying size, and in all sections of the country. But those colleges which are to realize the values which can emerge from an effective program of institutional research must plan effectively and with care. In the paragraphs which follow, recommendation, in the form of guidelines for junior colleges interested in developing or strengthening their programs of institutional research--will be presented.

In the recommendations, it will be observed that emphasis is placed upon factors which condition the support and encouragement of research and the utilization of its findings. Recognition is given to the importance of the extensive involvement of the faculty--not simply a central staff or even a committee--in institutional research. Such involvement can be useful in extending the range and effectiveness of studies and also in encouraging the use of findings. Kurt Lewin,<sup>12</sup> for example, points out that

....the extent to which social research is translated into social action depends on the degree to which those who carry out this action are made a part of the fact-finding on which the action is to be passed.

In presenting the guidelines which are listed below, the author has drawn upon the findings and conclusions of this study--including an analysis of the plans and "dreams" of administrators.

Each junior college committed to developing an effective program of institutional research should:

1. Formulate a basic philosophy of institutional research--a philosophy which projects for a particular institution "the creative, dynamic spirit of curiosity." This may be done through continuing and enlightened administrative leadership and through the wide involvement of staff members.

2. Provide specific and adequate financial support for institutional research. Someone has said, "A budget is the most important statement of the philosophy of a college." The financial support of institutional research should not be "left to chance." If the program is important, specific provision must be made for it within the college budget. Upon occasion extracollege support for research may also be sought from, for example, foundations and government sources.

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<sup>12</sup>Kurt Lewin, *Resolving Social Conflicts* (New York: Harper & Brothers, 1949), p. 68.

3. Assign responsibility for the coordination of institutional research. Although a trend toward full-time coordination--particularly in large colleges--has been noted, varying patterns of organization should be considered to meet the requirements of a particular institution. In many situations, part-time coordinators or coordination through committees prove to be workable.

4. Establish a staff advisory committee for institutional research. Such a committee can aid in providing direction, setting priorities, achieving the involvement of personnel, and evaluating outcomes.

5. Encourage faculty members to study problems connected with their work and responsibilities. Such encouragement can extend the values of research to all aspects of the educational program.

6. Provide expert assistance and in-service training for those who are working on studies. The coordinator of institutional research can often be of assistance to faculty members in designing and conducting studies. At times consultants can be employed to assist on particular research or indeed, in the total program. The type of assistance and in-service training required will, of course, depend upon the background of the individuals concerned and the types of studies on which they are working.

7. Provide facilities and staff assistance--clerical and secretarial, for example--necessary for the conduct of studies. Data processing equipment can and should be used when it will contribute to the more efficient handling, analysis, and storage of information.

8. Provide centrally used files for institutional research. Such files can aid in facilitating the use of findings and in avoiding unnecessary duplication of studies.

9. Make concerted and systematic efforts to encourage the use of the findings of research. The involvement of staff members in research and the provision of central files have been mentioned. Keeping the faculty informed regarding the research which is in progress can be helpful. In addition the findings of studies should be widely disseminated and specifically called to the attention of personnel to whose work and responsibilities they may be relevant. An institutional research newsletter to the faculty may also be useful. Mention should be made of the fact that the selection of studies to be made conditions the uses to which results will be put. In other words, the determination of what to study is an important element in encouraging use of findings. In general, only meaningful studies which give promise of being used should be approved and calendared.

10. Give recognition to those who engage in institutional research. This can be done, for example, through released time from other duties and additional employment (during vacation periods). Recognition can also be given through newspaper releases, published reports, and awards of various types.



Encouraging staff members to publish reports of research in appropriate professional journals can improve communications through wider dissemination as well as provide notable recognition of their efforts.

11. Cooperate with other appropriate agencies in the planning and conducting of studies. Upon occasion, several colleges may work together in making studies of common concern. Universities and governmental agencies can often be helpful in assisting on research.

12. Cooperate with other agencies in sharing data and findings. Greatly needed are means of coordinating the findings of research. Colleges can contribute to efforts now being made in various parts of the country (universities, state departments of education, educational associations) in assembling and coordinating the findings of studies.

#### Recommendations for Further Studies:

1. The quality of institutional research carried on at junior colleges should be evaluated. Reports of representative studies should be analyzed as a basis for recommending improvements--both in conducting studies and in reporting them.

2. A study should be made of what institutional research--including particularly the utilization of findings--has accomplished in junior colleges.

3. The qualifications, functions, and responsibilities required of a coordinator of institutional research should be determined.

4. Programs of training, both in-service and pre-employment, for all categories of personnel working in institutional research should be investigated and projected.

5. A study of the financial support for institutional research should be made to identify and develop plans for funding research through the college budget. Also studies should be made of sources of off-campus support for research.

6. The use of data processing equipment by the institutional researcher should be investigated in order that the machines can be extensively and efficiently used for data collection, organization, storage, retrieving, and analysis can be made soon and as efficiently as possible. Methods of securing trained personnel to operate this equipment should also be investigated.

7. The use of questionnaires should be examined to develop and establish standards for their preparation that will elicit valid responses, as well as techniques for their best employment, and means for making their completion as "painless" as possible. Plans for avoiding needless questionnaires should also be investigated.

8. The whole area of inter-institutional research should be studied to ascertain possible areas for cooperative investigation, methods of organizing to conduct these studies, how best to finance such research, and how best to report and utilize the findings.

9. A nation-wide study should be made of the collection, coordination, cataloguing, and dissemination of studies and/or their findings.

10. The possibility of publishing an anthology of selected junior college institutional research should be studied. Criteria for selecting reports for an anthology--one which would be useful in pointing directions for institutional research in junior colleges--should be defined.



## SELECTED BIBLIOGRAPHY FOR INSTITUTIONAL RESEARCH

- Axt, Richard G., and Sprague, Hall T. College Self-Study: Lectures on Institutional Research. Boulder, Colo.: Western Interstate Commission for Higher Education, 1959.
- Bagley, Clarence H., A Conceptual Framework for Institutional Research. (Proceedings of Fourth Annual National Institutional Research Forum) Pullman, Wash.: Washington State University, 1964.
- Brumbaugh, A.J. Research Designed to Improve Institutions of Higher Learning. Washington, D.C.: American Council on Education.
- Cresci, Gerald D., A Guide for Public Junior Colleges in California. Sacramento: California State Department of Education Annual.
- D'Amico, Louis A., and Martorana, S.V. "A Decade of Research and Information Reports on the Two-Year College," Junior College Journal, 32:292-298, January 1962.
- Doi, James J., "The Nature and Use of Institutional Research." (Proceedings of Invitational Conference on Testing Problems). Princeton, N.J.: Educational Testing Service, 1962.
- Giles, Frederic T., "Guidelines for Junior College Campus Planning." Junior College Journal, 32:471-475, April 1962.
- Gold, Ben K., "Criteria for Evaluating Junior College Institutional Research" (Unpublished Report). Los Angeles: U.C.L.A., May 19, 1962.
- Godfrey, Rollin E. The Role of the Registrar in Institutional Research. Greensboro, N.C.: The Woman's College of the University of North Carolina, 1959.
- Griffiths, Daniel E., Research in Educational Administration--An Appraisal and a Plan. New York: Teachers College, Columbia University, 1959.
- Grim, et al, Making an Area Study. Ann Arbor, Michigan: University of Michigan.
- Harris, Chester W. (ed.). Encyclopedia of Educational Research. New York: MacMillan Company, 1960.
- Heist, Paul A., "Research in Higher Education: Current Status and Future Needs," Current Issues in Higher Education, 1962. pp.154-157.
- Henderson, Algo D., "Improving Decision Making through Research." Current Issues in Higher Education, 1963. pp. 153-156.
- Hendrix, Vernon L., (Edit.) "Institutional Research in the Junior College." (Mimeo proceedings of U.C.L.A. Conference) Los Angeles, Calif.: U.C.L.A. September 1964.

- Henry, Nelson B. (ed.). The Public Junior College. Fifty-fifth Yearbook of the National Society for the Study of Education, Part I. Chicago, Illinois: University of Chicago Press, 1956.
- Johnson, B. Lamar, and Kintzer, Fred (eds.). Institutional Research in the Junior Colleges. (Junior College Leadership Program, Occasional Report No. 3) Los Angeles, Calif.: University of California at Los Angeles, 1962.
- Jongeward, Ray E. (Editor) Proceedings of Community College Research Symposium (Seattle, February 8-9, 1963) Olympia, Washington: State Department of Public Instruction, Research Report 01-02, 1963.
- Lasersfeld, Paul F., and Sieber, Sam D. Organizing Educational Research. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1964.
- Lins, L.J. (ed.). Basis for Decision. Current institutional research methods and reports for colleges and universities. Madison, Wisconsin: Dembar Educational Research Services, Inc., 1963.
- Lins, L. Joseph (Editor), The Role of Institutional Research in Planning. (Proceedings of Third Annual National Institutional Research Forum, Wayne State University, May 5-7, 1963) Madison, Wisconsin: University of Wisconsin, 1963.
- Lunsford, Terry F. (Editor), The Study of Academic Administration. (Proceedings of Fifth Annual Institute on College Self Study, U.C. Berkeley, July 22-26, 1963). Boulder, Colorado: Western Interstate Commission for Higher Education, October 1963.
- Marsee, Stuart E., "A President's View of Institutional Research," Junior College Journal, 35: 24-25, May 1965.
- Mayhew, Lewis B., "Research Involving Educational Problems and Policies," Unpublished speech to Stephens College Faculty, Sept. 1957. (mimeo)
- Menefee, Audrey (Editor), Institutional Research in the Junior College: Process and Product. (Asilomar Institutional Research Workshop, March 1965). Sacramento: American River Junior College.
- Morrison, D. "Research and the Two-Year College," Junior College Journal, 29:128-132, November 1958.
- Morrison, D.G., and Martorana, S.V. The 2-Year Community College--An Annotated List of Studies and Surveys. Washington, D.C.: United States Department of Health, Education and Welfare, Bulletin 1958, No. 14 and Bulletin 1963, No. 28.
- Raines, Max R., Appraisal and Development of Junior College Student Personnel Programs. Flint, Michigan: Flint Community Junior College, 1964.
- Sprague, Hall T. Institutional Research in the West. Boulder, Colo.: Western Interstate Commission for Higher Education, 1959.

Research on College Students. Boulder, Colo.: Western Interstate Commission for Higher Education, December 1960.

Stecklein, John E., "The Scope and Current Status of Institutional Research." Current Issues in Higher Education, 1962, pp. 240-252.

Stickler, W. Hugh. "The Expanding Role of Institutional Research in American Junior Colleges," Junior College Journal, 31:542-548, May 1961.

West, Elmer D., "Institutional Research in the Junior College," Unpublished speech at 1963 AAJC Seattle Convention. (Mimeo)

Western College Association, Institutional Self-Study--The Key to Orderly Change in Higher Education. (Proceedings of Annual Meeting at Chico State College, March 12-13, 1964) Chico, California: Chico State College, 1964.

Western Interstate Commission for Higher Education. Three Reports of Institutional Research on College Students, Boulder, Colo., 1960.

Williams, J.D. "The Value of Institutional Research." (Unpublished remarks at the Institute on Institutional Research.) Tallahassee, Fla.: Florida State University, July 11, 1960.

Wilson, Kenneth M. (Edit.), Institutional Research on College Students (March 1962), and Research Related to College Admissions (1963). Atlanta, Ga.: Southern Regional Educ. Bd.

Young, Raymond J. (Edit.), A Directory of Educational Research Agencies and Studies. Bloomington, Indiana: Phi Delta Kappa, 1959, and 1964.

Young, Raymond J., "Guidelines for Establishing Institutional Research Programs as They are Related to Student Personnel Efforts. Unpublished Paper - March 10, 1964.

NOTE: Additional sources especially fruitful for Institutional Research include:

1. U. S. Office of Education Statistics and Study reports, and "Clearing House".
2. Junior College Journal (El Camino will complete a subject index of all articles published during the past 15 years. Available on request about July 1.
3. Current Issues in Higher Education. (Annual Proceeding of AHE)
4. Research Resumes and California Journal of Educational Research (CTA).
5. Research Bulletins (NEA)
6. Reports from Western Interstate Commission for Higher Education including Vital Issues in Western Higher Education and Fact Book, Boulder, Colorado.
7. Reports from Educational Facilities Laboratory.
8. Reports from California State Department of Education.
9. All occasional reports published by the UCLA Junior College Leadership Program. (There are seven at this time).
10. Research reports on a variety of subjects by Science Research Associates, Inc. 259 E. Erie Street, Chicago, Illinois.
11. American Council on Education--"Fact Book," "Reports on Current Institutional Research," "Reports on Questionnaires."

12. Journal of Social Issues, Spring 1949 issue is on Community Self-Surveys.
13. American Educational Research Association, Review of Educational Research (covers a wide variety of important subjects). 1201 Sixteenth Street, N.W., Washington 6, D.C.
14. Educational Testing Service produces many publications of interest.